CE-ATA Design Guide

Design Guide ID	**002**
Affected Spec Ver.	**CE-ATA 1.1**
Corrected Spec Ver.	

Submission info

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Description of design guidance

The specification and host supplement is ambiguous regarding the minimum set of MMC commands a CE-ATA host and device is recommended to support in order to achieve MMC layer initialization and bus width switching. The only required commands listed in the specification are CMD0, CMD12, CMD39, CMD60, and CMD61.

This design guide clarifies the MMC commands and MMC registers a CE-ATA device needs to support for MMC initialization and bus width switching.

Supplemental information

Detection and initialization of the base MMC device should proceed as defined in the MMC reference. Table 1 lists the minimum set of additional MMC commands the device is recommended to support in order to achieve MMC layer initialization and bus width switching. Note that CMD14 and CMD19 are not listed for bus width discovery. CE-ATA is for embedded systems where it is expected that the bus width to be used is known.

MMC Layer Initialization
CMD1
CMD2
CMD3
CMD7
MMC Bus Width Switching
CMD8
CMD6
CMD13

Table 1 List of recommended MMC commands

After MMC layer initialization and bus width switching are complete, it is recommended that the host no longer use commands listed in Table 1. After this point, it is recommended that the host only use CE-ATA commands (CMD0, CMD12, CMD39, CMD60, CMD61). For commands whose response timing requirements are specified by N_{AC}, for CE-ATA devices the N_{ACIO} timing parameter should be used instead.

Table 2 lists the set of MMC registers the device is recommended to support in order to achieve MMC layer initialization and bus width switching.

MMC Registers
OCR
CID
RCA
EXT_CSD

Table 2 List of recommended MMC registers

The R1 response format contains a 32-bit field named CARD STATUS. It is recommended that the device support this field for proper initialization.

Status Field
CARD STATUS

Table 3 CARD STATUS field

Disposition log

11/1/2006	Design guide captured.
1/28/2007	Card Status added and additional input.
2/4/2007	Changes based on 1/31 Digital meeting.
2/16/2007	Changes to reflect bus width initialization.
2/26/2007	Added timing information for CMD8.
3/5/2007	Adjustments to make timing information for CMD8 more general.
4/30/2007	Erratum ratified.